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DRAFT

Recommended Outline for “Section 042000 – Unit Masonry” specification regarding LEED Submittals and product requirements as referenced in LEED for New Construction and Renovation V2.2:

Provided by Allied Concrete Products, LLC
March 2009

The following paragraphs are recommended for inclusion in the project specifications for Projects being designed to be a LEED certified Project as they pertain to LEED:

Under Part 1-General; Submittals:

1.X.x LEED Submittals:

1. Credit MR 4: Manufacturers’ product data indicating post-consumer recycled content and pre-consumer recycled content for concrete masonry units (CMU) only.
 - a. Include statement indicating costs for each product having recycled content.
2. Credit MR 5: Manufacturers’ [**letter**] [**certification**] indicating the percentage of materials used in the manufacturer of the product that was extracted, harvested or recovered, within **500 miles (800 km)** of the Project site, as well as manufactured within **500 miles (800 km)** of the Project site.
 - a. Include statement indicating cost for each regional material and the percentage by weight that is considered regional.
3. Credit ID: Statement of certification indicating manufacturers’ product is a Cradle-2-Cradle (C2C) product that will contribute to the LEED Innovation-in-Design Credit under the Cradle-2-Cradle (C2C) certification requirement.

Under Part 1-General:

- 1.X.x Material Certifications: (note to designer: add the following under Item “1. Masonry units”)
- 1.[e] For concrete masonry units, include data verifying compliance with ASTM C-33 for normal weight aggregates and ASTM C-331 for lightweight aggregate.

Under Part 2-Products; Concrete Masonry Units:

2.X.x Concrete Masonry Units: ASTM C90

1. Weight Classification: Light-weight, unless otherwise indicated.
[Note: To meet the STC-50 for interior partition walls under the LEED for Schools requirements, medium-weight or normal-weight CMU may be necessary based on thickness of wall/CMU. Documents or specifications should indicate the required STC rating and how it is to be achieved. For specific information on sound transmission ratings of CMU, refer to NCMA TEK 13-1B (2007).]

2. **Aggregates:**
 - a. **Lightweight Aggregates:** Lightweight aggregate used shall strictly comply with ASTM C 331. Drying shrinkage of aggregate shall not exceed 0.10 percent (%) at 100 days. The dry net unit weight shall not be more than 105 lbs. per cubic foot unless otherwise indicated.
 - b. **Normal Weight Aggregates:** Normal weight aggregate used shall strictly comply with ASTM C 33.

3. **LEED Requirements:**
 - a. **Standard Light-weight CMU:**
 - 1) **Recycled Content:** Provide standard light-weight CMUs that contain the following recycled content by weight: Post-consumer recycled content, minimum zero percent (0%); Pre-consumer recycled content, minimum **[ten percent (10%)]** **[twenty percent (20%)]** **[forty percent (40%)]**. All recycled aggregate content shall comply with ASTM C33 for normal weight aggregates[,] **[and]** ASTM C331 for light-weight aggregates[,] **[and ASTM C618 for Fly Ash]**. Aggregates not in compliance will not be allowed.

[Note to designer/specifier:

 - a. *Few manufacturers are currently producing concrete masonry units containing post-consumer materials. Verify availability with your regional manufacturers.*
 - b. *Concrete masonry units containing up to forty-five percent (45%) pre-consumer content is available upon request from: Allied Concrete Products, LLC, Chesapeake, VA, (800) 564-7300; Allied Concrete Products, LLC, Richmond, VA, (804) 279-7501; Allied Concrete, Charlottesville, VA, (434) 296-7181; ValleyBlox, Harrisonburg, VA, (540) 434-6725.]*
 - c. *Lightweight aggregates that do NOT meet ASTM C331 should not be allowed.*
 - d. *Normal weight aggregates that do NOT meet ASTM C33 should not be allowed.*
 - e. *Fly ash that does NOT meet ASTM C618 should not be allowed.]*
 - 2) **Cradle to Cradle Certification:** Provide standard light-weight CMUs with 'Cradle to Cradle' (C2C) Silver Certification as manufactured by **[Allied Concrete Products, LLC, Chesapeake, VA]** **[Allied Concrete Products, LLC, Richmond, VA]** **[Allied Concrete, Charlottesville, VA]** **[ValleyBlox, Harrisonburg, VA]**.

[Note to designer/specifier: Include the above paragraph if the "Innovation in Design" LEED point for the use of 5% Silver Certified C2C products is being pursued for the Project.]
 - b. **[Decorative] [and] [Architectural] CMU:** Provide decorative and architectural CMUs that contain the following recycled content by weight: Post-consumer content, minimum zero-percent (0%); Pre-consumer recycled content, minimum **[__ percent (__%)]** **[ten percent (10%)]** **[twenty percent (20%)]** **[thirty percent (30%)]**. All recycled aggregate content shall comply with ASTM C33 for normal weight aggregates[,] **[and]** ASTM C331 for light-weight aggregates[,] **[and ASTM C618 for Fly Ash]**.

[Notes to designer/specifier:

- a. *Allied Concrete Products, LLC produces Architectural CMU and represents and supplies Architectural CMU produced by other manufacturers. Contact Allied Concrete Products at 757-374-0304 for assistance.*
 - b. *Selection of percentage of recycled content in Architectural CMU shall be based on regional availability. Verify content and percentages with manufacturer(s) prior to selection of percentage content.]*
 - c. *Lightweight aggregates that do NOT meet ASTM C331 should not be allowed.*
 - d. *Normal weight aggregates that do NOT meet ASTM C33 should not be allowed.*
 - e. *Fly ash that does NOT meet ASTM C618 should not be allowed.]*
- c. Regional Materials: Provide CMUs that have been manufactured within 500 miles (800 km) of Project site from materials and products that have been extracted, harvested or recovered, as well as manufactured, within 500 miles (800 km) of Project site.

[Note to designer/specifier:

- a. *Percentages available may vary based on regional manufacturers.*
- b. *Allied Concrete Products, LLC, certifies regional materials percentages (by weight) as follows: Allied Concrete Products, LLC, Chesapeake, VA, (800) 564-7300, seventy-eight percent (78%); Allied Concrete Products, LLC, Richmond, VA, (804) 279-7501, one-hundred percent (100%); Allied Concrete, Charlottesville, VA, (434) 296-7181, one-hundred percent (100%); ValleyBlox, Harrisonburg, VA, (540) 434-6725, one-hundred percent (100%).]*